

EXHIBIT

14

DEFENDANTS' MOTION TO EXCLUDE THE TESTIMONY OF DR. CHRISTOPHER TEAF

05-CV-0329 GKF-PJC

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Section 1

Introduction

This expert report provides my opinions and the supporting information for the following areas:

- Sample Collection (Section 2)
- Laboratory Analyses (Section 3)
- Database Compilation (Section 4)
- Laboratory Results (Section 5)
- Evaluation of Source of Contamination in the IRW (Section 6)

My opinions are stated below:

- The sampling approaches including selection of sampling locations and sampling methods were appropriate and resulted in collection of representative samples from the each major pathway environmental component.
- The sampling approaches and parameters selected for analyses are appropriate to identify all major sources and causes of contamination in the IRW environment including evaluations of impacts from cattle waste, poultry waste, and wastewater treatment plant (WWTP) effluent.
- The sampling approaches and parameters selected for analyses are appropriate to support the evaluation of injuries in the IRW.
- The analytical procedures selected for each parameter are appropriate for the intended data use (e.g., source identification and injury evaluation) and consistent with recommended methods by federal and state agencies.
- Except as qualified, the laboratory data are accurate, precise, representative, and comparable and can be used for all intended purposes and evaluations. The U.S. Environmental Protection Agency (EPA) recommended completeness goal of over 90 percent was achieved (98 percent complete) and this indicates that the data are of acceptable quality and can be used for its intended purposes.
- The stated objectives and hypotheses for the evaluation of sources of contamination in the IRW are appropriate to determine the effects and injuries resulting from poultry waste land application and other major sources of contamination in the IRW.
- The chemical and bacterial contaminants of poultry waste are found in all the environmental fate and transport components through out the IRW starting at the source of contamination (poultry waste disposal on fields) and including runoff water from the fields with poultry waste, surface waters, groundwater, springs, Lake Tenkiller water, river sediments and Lake Tenkiller sediments. Because the

poultry related contaminants are pervasive through out the IRW, the overall water quality characteristics of the surface waters in the IRW have been substantially changed when compared to surface water quality in reference locations.

- The chemical and bacterial concentrations in each environmental component are consistent with known fate and transport processes and show a gradient in concentrations from high to low across the IRW depending upon closeness to poultry land application fields. These observations document a complete pathway of the poultry waste contamination from the land applied fields to streams, groundwater, springs, sediments, and Tenkiller water and sediments.
- The chemical compositions of the poultry waste and cattle manure are different from each other and individually unique. In addition, the chemical compositions of leachates of the poultry waste and cattle manure generated using synthetic precipitation are different from each other and individually unique. The chemical and bacterial compositions of poultry waste leachates are different and unique compared to WWTP discharges in the IRW. These differences allow identification of the important sources of contamination in the basin.
- Principal component analysis (PCA) identified two major sources of contamination in the IRW: poultry waste disposal and WWTP discharges. Poultry waste is by far the dominant contamination source in the IRW when compared to other sources. Cattle waste contamination was unique from both poultry waste and WWTP effluent and was identified in some samples with documented cattle manure contamination. However, chemical contamination from cattle waste is not dominant in the basin and only represents a minor source. In the PCA, the chemical and bacterial composition of poultry waste creates a distinct chemical signature that contains both phosphorus and bacteria.
- Mass balance calculations performed using the results of the synthetic precipitation leachates show that cattle manure is a relatively small source of the chemical contamination compared to poultry waste.
- Multiple lines of evidence by other experts (Drs. Engel, Fisher, Teaf and Harwood) support the conclusions that poultry waste is a major source of phosphorus and bacteria contamination in the IRW.

The information and evaluations supporting each of these opinions is provided in the following sections. Other opinions are also included in each section.